1. A method for image processing, in which the number of bits is limited in the bit string of a pixel, wherein the pixel is encoded with a restricted number of bits, wherein the method comprises steps of:

- searching for a prediction value corresponding to said pixel is;

5 - after the prediction value has been found, determining the difference between the pixel and the prediction value, to select the method for encoding the bit string of said pixel;

- in the bit string, encoding a code word to indicate the selected encoding method; and

10 - the restricted number of bits is fixed for substantially all of the encoded pixels in the image.

2. The method according to claim 1, wherein the code word to indicate the selected encoding method is of variable length.

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3. The method according to claim 1, wherein quantizing is used to encode the bit string, wherein first a limit value is determined, wherein said difference is compared with said limit value in such a way that when the difference is smaller, said difference is quantized in the encoding of the bit string, whereas

20 when the difference is greater, the original value of the pixel is quantized in the encoding of the bit string.

4. The method according to claim 3, wherein said code word is determined on the basis of the original and limited number of bits in the pixel in such a way

25 that the code word length does not exceed $N - (M - 1)$ where M corresponds to the limited number of bits and N corresponds to the original number of bits.

5. The method according to claim 4, wherein said code word is determined on the basis of the original and limited number of bits in the pixel in such a way

30 that the code word length is two when the change is less than 32 bits, and that the code word length is three when the change is more than 31 and less than 128 bits, wherein when the change exceeds 128 bits, the code word length is selected to be one, wherein the encoding method is changed.

35 6. The method according to claim 1, wherein the encoding method to be used is selected between DPCM and PCM coding in such a way that code word

lengths greater than one indicate the use of DPCM coding, wherein the code word length of one indicates the use of PCM coding.

7. The method according to claim 1, wherein the encoding method to be used is selected between ordinary DPCM coding and smart DPCM coding in such a way that code word lengths greater than one indicate the use of DPCM coding, wherein the code word length of one indicates the use of smart DPCM coding.

8. The method according to claim 1, wherein said prediction value is the value of one encoded pixel value or the average of several encoded pixel values.

9. The method according to claim 1, wherein in the absence of a prediction value, the bit number is limited by quantizing said pixel.

10. The method according to claim 1, wherein in the method, the bit string is decoded by using a decoding method corresponding to the used encoding method.

11. The method according to claim 1, wherein the pixel is encoded for transfer between a camera module and an electronic device.

12. An image processing system which is configured to process an image with a limited number of bits in the bit string of a pixel, wherein the system comprises means for encoding the pixel to the limited number of bits, wherein the system:
- also comprises means for searching for a prediction value corresponding to the pixel;
- after the prediction value has been found, the system is fitted to determine the difference between the pixel and the prediction value, wherein the means for encoding the pixel are arranged to encode the bit string of said pixel by the encoding method indicated by the difference as well as to encode, in the bit string, also a code word to indicate the encoding method indicated by the difference; and

-     the restricted number of bits is fixed for substantially all of the encoded pixels in the image.

13. The system according to claim 12, wherein in the absence of a prediction value, the system is arranged to quantize the value of said pixel.

14. The system according to claim 12, wherein the system also comprises means for determining a limit value, wherein the system is also arranged to compare said difference with said limit value in such a way that when the difference is smaller, the system is arranged to quantize said difference, whereas when the difference is greater, the system is arranged to quantize the original value of the pixel.

15. The system according to claim 14, wherein the system is arranged to determine said code word on the basis of the original and limited number of bits in the pixel in such a way that the code word length does not exceed $N - (M - 1)$ where M corresponds to the limited number of bits and N corresponds to the original number of bits.

16. The system according to claim 15, wherein the system also comprises means for forming the length of the code word on the basis of the original and limited number of bits in the pixel in such a way that the code word length is two when the change is less than 32 bits, and that the code word length is three when the change is more than 31 and less than 128 bits, wherein when the change exceeds 128 bits, the code word length is one, to change the encoding method.

17. The system according to claim 12, wherein the system also comprises a DPCM codec and a PCM codec, wherein code word lengths greater than one indicate the use of the DPCM codec, wherein the code word length of one indicates the use of the PCM codec.

18. The system according to claim 12, wherein the system also comprises an ordicary DPCM codec and a smart DPCM codec, wherein code word lengths greater than one indicate the use of the DPCM codec, wherein the code word length of one indicates the use of the smart DPCM codec.

19. The system according to claim 12, wherein said prediction value is the value of one encoded pixel value or the average of several encoded pixel values.

20. The system according to claim 12, wherein the system also comprises means for decoding the bit string to correspond to the encoding.

21. The system according to claim 12, wherein the system also comprises a camera module and an electronic device.

22. The system according to claim 21, wherein the electronic device comprises means for performing mobile communication.

23. A device for image processing, which device is configured to process an image with a limited number of bits in a bit string of a pixel, wherein the device comprises means for encoding the pixel to the limited number of bits, wherein:
- the device also comprises means for searching for a prediction value corresponding to the pixel;
- the device comprises means for determining the difference between the pixel and the prediction value, wherein the means for encoding the pixel are arranged to encode the bit string of said pixel by the encoding method indicated by the difference as well as to encode, in the bit string, also a code word to indicate the encoding method indicated by the difference; and
- the restricted number of bits is fixed for substantially all of the encoded pixels in the image.

24. The device according to claim 23, wherein the device also comprises means for quantizing said pixel, which means are also arranged to quantize the value of the original pixel in the absence of a prediction value.

25. The device according to claim 23, wherein the device also comprises means for determining a limit value, wherein the device is also arranged to compare said difference with said limit value in such a way that when the difference is smaller, the device is arranged to quantize said difference,

whereas when the difference is greater, the device is arranged to quantize the original value of the pixel.

26. The device according to claim 23, wherein the device also comprises means for decoding the bit string in the way indicated by the code word.

27. The device according to claim 23, wherein the device also comprises a camera module.

28. The device according to claim 27, wherein the device also comprises means for performing mobile communication.

29. The device according to claim 23, wherein the device also comprises means for performing mobile communication

30. A computer software product for image processing, which computer software product comprises a storage means, which storage means comprises computer software instructions for image processing with a limited number of bits in the bit string of a pixel, as well as for encoding the pixel to the limited number of bits, wherein:
- the storage means also comprises computer instructions to search for a prediction value corresponding to the pixel;
- as well as computer instructions to determine the difference between the pixel and the prediction value, and to encode the bit string of the pixel by the encoding method indicated in the difference, as well as to encode, in the bit string, the code word indicating the encoding method indicated by the difference; and
- the restricted number of bits is fixed for substantially all of the encoded pixels in the image.

31. A camera module for image processing, which camera module is fitted to process an image with a limited number of bits in the bit string of a pixel, wherein the camera module also comprises means for encoding the pixel to the limited number of bits, wherein the camera module:
- comprises means to search for a prediction value corresponding to the pixel;

- the camera module is fitted to determine the difference between the pixel and the prediction value, wherein the means to encode the pixel are arranged to encode the bit string of said pixel by the encoding method indicated by the difference as well as to encode, in the bit string, also a code word to indicate the encoding method indicated by the difference; and
- the restricted number of bits is fixed for substantially all of the encoded pixels in the image.

32. A circuit for image processing, which circuit comprises an encoder and a decoder, which encoder is arranged to process an image with a limited number of bits in the bit string of a pixel, wherein the encoder is arranged to encode the pixel to the limited number of bits, wherein:

- the encoder comprises storage means for storing at least one decoded pixel as a prediction value, wherein the encoder is arranged to retrieve the prediction value corresponding to the pixel from said storage means;
- the encoder comprises means for determining the difference between the pixel and the prediction value, wherein the encoder is arranged to encode the bit string of said pixel by the encoding method indicated by the difference as well as to encode, in the bit string, also a code word to indicate the encoding method indicated by the difference; and
- the restricted number of bits is fixed for substantially all of the encoded pixels in the image.

33. The circuit according to claim 32, wherein in the absence of a prediction value, the encoder is arranged to quantize the value of said pixel.

34. The circuit according to claim 32, wherein the encoding method to be used is DPCM or PCM coding.

35. The circuit according to claim 32, wherein the encoding method to be used is ordinary DPCM coding or smart DPCM coding.

36. The circuit according to claim 32, wherein the decoder is arranged to decode the bit string by a decoding method corresponding to the encoding method used.

5   37. A device for image processing, which device comprises a decoder which is arranged to process an image with a limited number of bits in the bit string of a pixel, which decoder is also arranged to decode the pixel to its original number of bits, wherein the decoder is arranged to recognize the code word from said bit string and to decode said pixel by the encoding method indicated
10   in the code word, wherein the decoder comprises memory means for storing at least one decoded pixel as a prediction value, wherein the decoder is arranged to retrieve the prediction value corresponding to the pixel from said memory means.